

What is claimed is:

16. Cell line IA-2, 96-3-1, deposit number DSM ACC2365, producing a monoclonal antibody binding specifically to the cytoplasmic domain IA-2ic of human islet cell antigen IA-2.
17. A monoclonal antibody produced from cell line IA-2, 96-3-1, deposit number DSM ACC2365, said antibody binding specifically to the cytoplasmic domain IA-2ic of islet cell antigen IA-2.
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18. A monoclonal antibody that binds specifically to islet cell antigen IA-2 in a manner equivalent to that of an antibody from cell line IA-2, 96-3-1, deposit number DSM ACC2365.
19. The antibody of claim 18, wherein said antibody belongs to the immunoglobulin class IgG.
20. The antibody of claim 19, wherein said antibody belongs to the immunoglobulin subclass IgG1.
21. A method for producing a monoclonal antibody that binds specifically to islet cell antigen IA-2, said method comprising:
- (a) isolating peripheral mononuclear cells (PBMNC) from the blood of a donor having a high serum antibody titre to IA-2,

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- (b) enriching the relevant B cell subpopulation from step (a) by isolating membrane IgG-positive B cells,
 - (c) immortalizing the isolated membrane IgG-positive B cell subpopulation from step (b),
 - (d) culturing the immortalized cells from step (c) and testing for the presence antibody that binds specifically to islet cell antigen IA-2 in the culture supernatant,
 - (e) cloning cells from step (d) which produce antibody that binds specifically to islet cell antigen IA-2 in the presence of feeder cells which contain no cytotoxic T lymphocytes, and
 - (f) isolating antibody that binds specifically to islet cell antigen IA-2.

22. A method for detecting an antibody that binds specifically to islet cell antigen IA-2 or IA-2ic in a sample suspected of containing said antibody, said method comprising:

- (a) contacting said sample with a binding partner comprising an IA-2 or IA-2ic antigen, thereby forming an immune complex, said binding partner bound directly or indirectly to a solid phase,
- (b) determining said antibody by contacting said immune complex with a receptor comprising a complex of an antibody that binds specifically to islet cell antigen IA-2ic and a detectable label,

- (c) detecting the presence or amount of said label as a measure of said antibody in said sample.
23. The method of claim 22 wherein the antibody comprising said complex comprising said receptor binds specifically to islet cell antigen IA-2 in a manner equivalent to that of an antibody from cell line IA-2, 96-3-1, deposit number DSM ACC2365.
24. A method for isolating an islet cell antigen IA-2 from a sample suspected of containing said antigen, said method comprising:
- (a) contacting said sample with a monoclonal antibody that specifically binds to IA-2, said antibody bound directly or indirectly to a solid phase, thereby forming an immune complex,
 - (b) separating the immune complex from the solid phase, and
 - (c) cleaving the immune complex and isolating said antigen.
25. The method of claim 24 wherein said antibody binds specifically to islet cell antigen IA-2 in a manner equivalent to that of an antibody from cell line IA-2, 96-3-1, deposit number DSM ACC2365.
26. A method for producing an anti-idiotypic antibody directed against an antibody binding specifically to the cytoplasmic domain IA-2ic of human islet cell antigen IA-2 comprising:

- (a) immunizing an animal with an antibody binding specifically to the cytoplasmic domain IA-2ic of human islet cell antigen IA-2,
 - (b) immortalizing spleen cells from said immunized animal,
 - (c) culturing the immortalized cells from step (b) and testing for the presence of anti-idiotypic antibody directed against an antibody binding specifically to the cytoplasmic domain IA-2ic of human islet cell antigen IA-2 in the culture supernatant,
 - (d) cloning cells from step (c) which produce anti-idiotypic antibody directed against an antibody binding specifically to the cytoplasmic domain IA-2ic of human islet cell antigen IA-2, and
 - (e) isolating anti-idiotypic antibody directed against an antibody binding specifically to the cytoplasmic domain IA-2ic of human islet cell antigen IA-2.
27. The method of claim 26 wherein said antibody binding specifically to the cytoplasmic domain IA-2ic of human islet cell antigen IA-2 binds specifically to islet cell antigen IA-2 in a manner equivalent to that of an antibody from cell line IA-2, 96-3-1, deposit number DSM ACC2365.